12-2002

Effects of Visual Impairment, Gender, and Age on Self-Determination Opportunities at Home, with Friends, with Health Care, at School, and in Physical Education

Barbara Lynn Robinson
The College at Brockport

Effects of visual impairment, gender, and age on self-determination opportunities at home, with friends, with health care, at school, and in physical education

by

Barbara Lynn Robinson

Degree awarded December 2002

A thesis submitted to the Department of Physical Education and Sport of the State University of New York College at Brockport in partial fulfilment of the requirements for the degree of Master of Science.

Effects of visual impairment, gender, and age on self-determination opportunities at home, with friends, with health care, at school, and in physical education

by Barbara L. Robinson

APPROVED BY:

Lauren Lieberman 12/19/02

Thesis Chairperson: Dr. Lauren Lieberman Date

_____ _____

Committee member: Dr. Cathy Houston-Wilson Date

_____ _____

Committee member: Dr. Christopher Williams Date

_____ _____

Chair, Department of Physical Education and Sport: Dr. Frank Short Date

Dedications

I would like to dedicate this thesis to an individual who has provided guidance, encouragement and was instrumental in my choosing teaching as a career, Ms. Janice M. Locey. Janice has provided me with a wealth of knowledge in the field of teaching physical education. She pushed me to do my best work and together we set high standards for achievement. Thank you Janice for helping me to make my dreams become a reality.

I would also like to dedicate this thesis in loving memory to Mrs. Colleen Fatta. Colleen provided me with an enjoyable and rewarding student teaching experience in Adapted Physical Education. She exhibited high standards for her teaching, an unlimited wealth of knowledge and a tremendous sense of pride and professionalism. Colleen pushed me to think outside the box when helping the students. Colleen, I miss your laughter and enthusiasm.

Acknowledgements

I would like to thank a number of individuals who have played an instrumental part in the completion of this thesis and in my years as a student at the State University of New York College at Brockport.

I would like to thank Dr. Lauren Lieberman who provided me with guidance as both a professor and a friend. She continuously provided encouragement and an undulating belief in my abilities as a writer, student and teacher. Lauren is a role model with an energetic passion for her profession. Her knowledge and involvement in helping students learn and become the future of our profession is remarkable. As my thesis chairperson she has provided guidance and encouragement when it was most needed. Thank you Dr. Lieberman for your belief, without you this thesis never would have been completed.

I would also like to thank Dr. Cathy Houston-Wilson for her guidance in the writing of the thesis. She has provided academic and professional guidance during my years at SUNY Brockport as well. Thank you Dr. Houston-Wilson for your encouragement and professional guidance.

Thank you Dr. Christopher Williams for your assistance with the statistical analysis for my thesis. Your patience and understanding have been instrumental in the completion of this paper.

Thank you to my mom, Betty and my sister, Bev, for their continued support and encouragement to not give up. When the going got tough you stuck it out with me, for that I am grateful.

Table of Contents

List of Tables

List of Illustrations

List of Appendices

Abstract

Research on Self-Determination Theory has been conducted on many aspects of an individual's across the lifespan. Studies have researched the effects of self-determined behaviors on general education, athletic sport participation, and an individual's control of their own needs. However, few studies have been conducted on self-determination opportunities that are provided in physical education. Studies indicate an importance of self-determination in all aspects of ones life with regard to perceived competence, motivation, goal setting, choice making and achievement of positive outcomes. Few studies have been conducted regarding the effects of self-determination on the lives of individuals with visual impairment or deaf-blindness. The current study examined self-determination opportunities across the following domains: at home, with friends, with health care, at school, and during physical education of students with visual impairments and deaf-blindness.

Fifty-four students, 31 boys and 23 girls (ages 8 to 23 years), who participated in a one-week summer sport camp were surveyed. The variables studied were: level of visual impairments, gender, and age. A 2X2X3 MANOVA and post hoc analysis indicated that a significant difference for level of visual impairment was present; however, no significant differences were indicated for gender and age. All classifications of visual impairment scored low across all domains studied. It was concluded that self-determination opportunities are not being provided to students with visual impairments.

Chapter 1

Introduction

Throughout American history legislation has been implemented for the equal rights of all persons. The Civil Rights Act of 1964 started the self advocacy empowerment movement, which continued throughout the 70's, 80's and 90's with Title IX (1972), the Education of All Handicapped Students Act (PL 94-142) (1975), the Americans with Disabilities Act (PL 101-336) (1990), and the Individuals with Disabilities Education Act (PL 105-17) (1970, 1997). A key development or motivational theory that has been traced throughout these historical social movements that encompass, self-advocacy, disability rights, and empowerment is the Self-Determination Theory (Ward, 1996).

Self-Determination Theory (SDT) distinguishes the motivational agents affecting an individual's attitudes, abilities and behaviors that lead individuals to define goals and take the initiative in achieving those goals (Kowal & Frontier, 1999; Ward, 1996). Sherrill (1998) further explains SDT as the degree of perceived control an individual has over contributing events that lead to goal achievement, psychological well-being, and intrinsic motivation.

Human development involves progression from dependence on others to self-care and self-direction known as Autonomous Functioning, an essential characteristic of SDT (Wehmeyer, 1996). Self-regulated behavior, psychological empowerment and well-being, and self-realization complete the list of essential characteristics that need

to be present for development of self-determination (Wehmeyer, 1996). These essential characteristics of SDT influence an individual's development and acquisition of self-determined behavior components such as choice making, decision-making, problem solving and goal setting. Strategies for the successful emergence of these self-determined behaviors should be taught to all children (Ward, 1996). According to the Americans with Disabilities Act (ADA), equal opportunity for participation in all aspects of life needs to be ensured (Code of federal regulations: education, 1998).

Self-determined behaviors are critical to a positive quality of life. Individuals without disabilities are provided educational opportunities to develop, refine and practice self-determined behaviors through school, recreational, and family activities. On the other hand, individuals with disabilities are socially perceived to need long-term care and protection (Ward, 1996). Consequently, disabled individuals are not afforded the opportunities to make decisions in their lives. Opportunity to make the most rudimentary choices can have a meaningful impact on the quality of life for individuals with disabilities (Schloss, Alper, & Jayne, 1993). In fact, normalization and quality of life are closely related to having the opportunity to make choices and that people with profound or multiple disabilities can learn to make the choices (Schloss, et al., 1993).

Physical activity contributes to human growth and social development (American Alliance for Health, Physical Education, Recreation, and Dance [AAHPERD], 1999). The Individuals with Disabilities Education Act (PL 105-17,

IDEA) requires that equal education be provided to all children regardless of their ability level (Federal regulations: education, 1998). Furthermore IDEA stipulates physical education, which is differentiated from related services such as occupational and physical therapy, be provided to all children receiving a free appropriate public education. Physical activity provides health benefits that are important to the well-being of all people in society regardless of physical competence or disability (AAHPERD, 1999).

The denial of sport, recreational activities, and physical education to individuals' with disabilities affects physical competence, problem- solving skills, and socialization opportunities with same age peers (AAHPERD, 1999; Blinde & McClung, 1997). Negative societal beliefs persist toward individuals with disabilities thus affecting physical ability levels, and knowledge of activities available (Blinde & McClung, 1997; Korhonen, 2000). Individuals with disabilities (visual impairments) need to be provided reinforcing factors such as social support to increase motivational agents and perceived control over activities that effect quality of life (Korhonen, 2000). Physical activity improves health-related quality of life by enhancing psychological well-being which is an essential characteristic of self-determined behavior (Graham, Holt/Hale & Parker, 1998).

Statement of the Problem

The movement to support and promote self-determination requires that people be treated with respect and dignity regardless of ethnicity, age, social class or possessing a disability (Wehmeyer, 1996; Wehmeyer, Agran, & Hughes, 1998).

Opportunities to achieve independence through the acquisition of skills necessary and putting these skills into action are not readily provided to individuals with disabilities; however able bodied counterparts are provided educational programming, recreational and home opportunities to develop these skills (Abery & Zajac, 1996; Blinde & McClung, 1997). The concept of independent living does not mean doing everything one's self, but rather having control over what is being done (Pumpian, 1996). Students with disabilities must be provided the opportunities to participate in a variety of age appropriate physical activities equivalent to their able bodied peers (Houston-Wilson & Lieberman, 1999).

The benefits of physical education include physical well-being, socialization with same age peers, problem solving, increased self-esteem, and increased psychological well-being, which directly impact an individuals quality of life (Graham, Holt/Hale, & Parker, 1998; Surgeon General, 1996). Quality opportunities for interacting with others and broadening social experiences that occur through sport and recreational activity, are unfortunately often denied to individuals with disabilities (Blinde & McClung, 1997).

Purpose of the Study

The purpose of this study is to investigate the effects of visual impairment, gender, and age have on self-determination opportunities, as defined by Self-Determination Theory, in physical education, with friends, at home, with health care, at school, and perceived independence of students with visual impairments or deaf-blindness.

Research Hypothesis

It is hypothesized that students classified as legally blind (B3) will have higher levels of self-determination in physical education, at home, with health care, with friends and at school and perceived independence than students classified as travel vision (B2) or totally blind (B1).

Research Questions

The research conducted will answer the following questions:

1. Are self-determination opportunities in physical education affected by visual impairment or deaf-blindness?
2. Are boys provided more self-determination opportunities than girls?
3. Are older students provided more self-determination opportunities than younger students?

Definitions

Self-Determination Theory: refers to one's attitude and ability to define goals and make choices/decisions and act in an autonomous manner with regard to their quality of life (Sherrill, 1998; Ward, 1996; Wehmeyer, Agran, & Hughes, 1998).

Autonomous Functioning: actions or behaviors occur according to an individual's own preferences, interests, abilities in an independent manner. (Wehmeyer, et al., 1998).

Self-Regulated Behavior: an individual's ability to make decisions regarding behavior, evaluate the outcomes of the behavior, and make new choices in behavior, if necessary (Wehmeyer, et al., 1998).

Psychological Empowerment: an individual's perceived control over such things as personality, cognition, and motivation (Ward, 1996).

Self-realization: an individual's behavior is the result of knowledge of self-strengths and limitations (Wehmeyer, et al., 1998).

Introjection: a form of extrinsic motivation, which occurs when an individual's behavior is the result of relieving feelings of guilt (Vallerand, Fortier, & Guay, 1997).

Intrinsic Motivation: a behavior of an individual that is characterized by participation in an activity for the pleasure and satisfaction that is obtained from it (Vlachopoulos, Karageorghis, &Terry, 2000).

Extrinsic Motivation: the behavior of an individual is controlled or influenced by the belief of receiving rewards or avoid negative consequences. (Vallerand, et al., 1997)

B1 Classification: no light perception (less than 3/200) in either eye, the inability to recognize a hand at any distance (United States Association for Blind Athletes, 1982).

B2 Classification: the ability to recognize the shape of a hand 3-5 feet away, can read large print with magnifying assistance, 3/200 to 10/200 (United States Association for Blind Athletes, 1982).

B3 Classification: can read large print without magnifying devices and may require verbal assistance in low light conditions, also defined as legally blind, 20/200 (United States Association for Blind Athletes, 1982).

Deaf blind: a combination of auditory and visual impairments that require a special form of communication (Sherrill, 1998).

Delimitations

The primary delimitations of this study are as follows.

1. The survey was given to 54 students who are visually impaired, deaf-blind between the ages of 8 and 23 years.
2. The study focused on self-determination opportunities, as defined by Self-determination Theory, in physical education, at home, with friends, with health care, and at school of students with visual impairments and deaf-blindness.
3. The study included students who participate in a one-week summer sport camp.
4. The instrument is a modified version of the Self-Determination Exercise Scale: Student Edition, which was validated by five adapted physical education and special education specialists.

Limitations

The primary limitations of this study are as follows.

1. All students had the survey read to them by their counselor.
2. The groups used had unequal sample sizes.

Assumptions

The basic assumptions for collecting data for this study are the following:

1. The students are provided the opportunity to participate in physical education classes on a regular basis.
2. The students with visual impairments and deaf-blindness are representative of a population with limited access to physical education and self-determination opportunities.
3. The students were placed in the correct classification for visual impairment.
4. The answers given by the students surveyed are truthful.
5. The students surveyed are representative of students with visual impairments and deaf-blindness.
6. The students surveyed are provided opportunity to participate in physical education classes throughout the school year.

Chapter 2

Review of Literature

The purpose of this chapter is to review literature on the effects visual impairment, age, and gender have on self-determination opportunities in physical education classes, at home, with friends, with health care, and at school, and perceived independence of students with visual impairments or deaf-blindness.

Perceived independence as influenced by self-determined behaviors

Self-determination theorizes that humans are proactive organisms; thus, the development and acquisition of component elements critical to a positive quality of life need to be taught starting at an early age (Abery & Zajac, 1996; Deci, Eghrari, Patrick, & Leone, 1994). This said *self-determined behaviors influence many facets of one's life across the life span.*

Deci, Eghrari, Patrick, and Leone (1994) stipulate that there are two general classes of motivational behaviors associated with self-determination, those that are representative of the process of choice, originating from the self and secondly those that are representative of the process of compliance controlled by some interpersonal force. The authors conducted a factorial experiment with three independent variables: a meaningful rationale, an acknowledgement of conflicting feelings, and a style that minimizes pressure and conveys choice, all of which are social contextual factors that support self-determination. It was hypothesized that when social context supports self-determination integration will occur. The authors reported that there will be

greater consistency or coherence between an individual's behavior and internal states when self-determination is supported, thus lessening feelings of conflict and tension.

An assumption of Self-Determination Theory (SDT) is that individuals are inherently motivated to integrate activities that are found useful for effectively manipulating their social environment (Deci, et al., 1994). The distinction between intentional versus controlled behaviors directly impact the activities or behaviors an individual utilizes to manipulate their environment. Williams and Deci (1996) indicated that an individual in an authority role should take the other's perspective, feelings, and perceptions into consideration when providing information and choices, and need to minimize the use of pressure and control to support self-determined behaviors. This is supported by findings of a study conducted by Williams, Freedman and Deci (1998) that concluded health care providers supporting a patient's autonomy does not mean being detached or withholding advice, actively engaging the patients, understanding their perspectives and feelings, and providing treatment options when appropriate. The authors suggested that *the provision of information in a way that allows the individual to consider its meaningfulness in making decisions that lead to better outcomes is of critical importance.*

Koestner, Bernieri, and Zuckerman (1992) conducted a study proposing that consistency between self-reported attitudes or traits, and behavior depend primarily on two factors: the extent individuals are aware of their attitudes and traits and the extent an individual's behavior flows from these attitudes and traits rather than being controlled by social contingencies. The General Causality Orientations Scale (GCOS)

provided the researchers an estimate of an individual's general tendency to regulate behavior in an autonomous or control-determined manner.

Koestner, et al. (1992) conducted two experiments predicting that an individual's self-regulatory style would moderate the degree of consistency between attitudinal and behavioral measures of intrinsic motivation. The results suggest that behaviors customarily regulated in a self-determined manner are likely to be described as thoughts and feelings that reflect behavior, and that individuals who function in a control-determined manner report that thoughts and feelings are at odds with their behaviors. The researchers concluded that autonomous individuals maintain a high degree of consistency among behaviors, thoughts, feelings, and needs than do individuals whose behavior is control-determined. The authors concluded that *behaviors that are the result of interest, enjoyment, and choice provide a foundation when related to attaining a specified goal. Furthermore, many high school students with visual impairments participate in physical activity out of interest and basic fitness as a main goal.*

Vallerand, Fortier, and Guay (1997) emphasize that social agents, as important as they are, do not influence motivation directly. This is supported by Gronmo and Augestad (2001), who indicated that social comparison had little importance in explaining self-concepts of students with visual impairments. However, many adolescents who are visually impaired have been found to be socially isolated, with few friends, and possess inadequate interpersonal skills (Huurre, Komulainen, & Agro, 1999). It has been indicated that a visual impairment may cause an adolescent

to feel inadequate and inferior, thus reflecting lack of social acceptance, academic underachievement, physical incapability, and social maladjustment (Huurre, et al., 1999). Rosenblum (1998) stipulates that visual impairments may affect the acquisition, development, and maintenance of a critical social agent, termed "friendship", especially with sighted classmates.

Self-determined behaviors and its influence on education

An important influence on *motivation has been identified as the social context in education, in which three social agents play a major role in influencing a student's motivation: teachers, parents, and administrators* (Deci, Vallerand, Pelletier & Ryan, 1991; Vallerand & Fortier & Guay, 1997).

Wehmeyer and Schwartz, (1998) reported that teaching students to become self-determined and to take greater responsibility for their lives are important aspects of a successful transition from school to adult life for adolescents with disabilities. The researchers also stipulated that adolescents with cognitive disabilities who are more self-determined leave school to more positive adult outcomes than do their peers with less self-determination and have a higher quality of life. Wehmeyer and Schwartz reported that although teachers who taught students with disabilities felt teaching self-determination was a very important area, there was no emphasis on self-determination in curricular and planning activities.

In Wehmeyer and Schwartz's (1998) study, they examined transition plans of students with mental retardation to determine to what degree goals in these plans teach students to become self-determined young people. The researchers conducted a

content analysis of transition related goals presented in Individualized Education Plans (IEP) for 136 students with mental retardation or other developmental disabilities. Eight hundred ninety five transition goals had been written for the 136 students with mental retardation or developmental disabilities, none of which were related to teaching or learning a skill specifically related to self-determination. The researchers reported a total of 32 goals actually involved the student making a decision or choosing an outcome. Adults with mental retardation are not effective problem solvers and do not make choices, but, most importantly are not being taught the skills necessary to do so (Wehmeyer & Schwartz, 1998). Students with less significant cognitive disabilities receive targeted instruction for these skills, where students with mental retardation are believed not to be capable of learning these skills (Wehmeyer & Schwartz). Low levels of self-determination is not an inevitable outcome for individuals with disabilities if environments that effectively support self-determination are provided (Abery & Stancliffe, 1996). To the contrary, students with mental retardation would benefit from the instruction in self-determination skills enabling them to become adults who can take greater control over their lives (Wehmeyer & Schwartz). The thought of teaching self-determination skills is important to all students since an essential part of acting independently and with dignity is the ability to make choices (Abery & Zajac, 1996; Gothelf, Crimmins, Mercer, & Finocchiaro, 1994; Wehmeyer, 1996). After all self-determination is more than skills, knowledge, or beliefs; it is an interaction between an individual and their environment (Abery & Stancliffe, 1996).

Gothelf, et al., (1994) stipulated that through instruction on choice-making, deaf-blind students can take control of a part of their environment that is meaningful and motivating. Gothelf, et al., also indicated that there is better performance on a student-selected task than on teacher-selected ones. *Allowing students to make some decisions about their schooling is an effective way of increasing self-determined motivation to achieve positive outcomes*, such as staying in school (Vallerand, Fortier, and Guay, 1997).

A contributing factor to a student dropping out of school is motivation (Fortier, Vallerand & Guay, 1995; Vallerand et al., 1997). A motivational model was developed consisting of four parts: low levels of autonomy- supportive behaviors, low perceptions of competency, low levels of self-determined motivation, and finally intentions being carried out.

The results of the Vallerand, et al., (1997) study identified that dropout students had lower levels of intrinsic motivation, identification, and introjection; however, they had higher amotivation levels than students who continue in school. A second result indicated that students who dropout perceived themselves as being less competent and autonomous at school activities. An important implication of these findings is that *self-determined motivation leads to important real-life outcomes*. The findings of this study reinforce the notion that *motivation is a powerful contributor that leads to action and supports self-determination in behavior*. Perceived competence has been identified as a critical mediator between the social context and self-determined motivation (Vallerand, et al.).

Williams and Deci (1996) reported that *individuals who perceive themselves as competent at a behavior will be motivated to engage in the behavior to accomplish a desired outcome.* Using medical the researchers stated that *students who experience autonomy support have been found to be more autonomous in learning and integrating material being taught in an educational setting.* This outcome should not be limited to academic learning, but should include all domains of the educational forum. For example, a primary goal of researchers and educators in the physical domain is researching and understanding variations in motivation behaviors such as effort, choice, and persistence in physical activity to achieve a desired outcome, such as healthy active individuals (Ferrer-Caja & Weiss, 2000).

Self-determined behaviors and their effects on physical education

An examination of a model of relationships among social, individual and motivational variables was the main purpose of a study conducted by Ferrer-Caja and Weiss (2000). The authors used a representation of three items of self-determination in Stein and Scanlan's (1992) research on goals and sources of enjoyment. The relationships among social and individual factors, intrinsic motivation, and motivated behaviors in high school physical education classes were investigated. Self-referenced measurements, such as effort and personal improvement, were used to evaluate the success of students who perceived physical education class as promoting learning and participation. *These students participated in their classes for enjoyment, fun, and a desire to learn; and viewed their physical ability highly, thus choosing more difficult activities.*

The authors observed 407 participants from 8 senior high schools, ages 14 to 19 years. This study revealed that teachers have a critical role in promoting intrinsically motivated behaviors. A student's perception of the teacher's philosophy of promoting learning and skill improvement positively influenced intrinsic motivation, effort, and persistence. The authors also found that perceived competence was only moderately related to self-determination while intrinsic motivation had a very weak link. Korhonen (2000) had similar findings in a study of high school students with visual impairments.

The study focused on students who were required to participate in physical education classes as part of their high school requirement. Ferrer-Caja and Weiss concluded that involvement in physical activity among young people is a critical issue. *To keep today's youth actively involved, there is a need to know how to motivate and implement programs that are effective.* Kowal and Frontier (1999) support the notion that intrinsic motivation and self-determined extrinsic motivation are regarded as the two self-determined forms of motivation that lead to positive outcomes in health promoting behaviors and positive emotions.

Deci, Vallerand, Pelletier, and Ryan (1991) are supported by the findings of Ferrer-Caja and Weiss (2000) by indicating that *students who are intrinsically motivated for doing schoolwork and have developed autonomous regulatory styles are most likely to stay in school, achieve, demonstrate conceptual understanding and be better adjusted than students with less self-determined types of motivation.* Deci, et al., (1991) concluded that the *promotion of greater self-determination, which means a*

greater sense of choice, self-initiation of behavior,and personal responsibility, is the avenue to take to attain positive outcomes that are beneficial to both society and the individual.

Rigby, Deci, Patrick, and Ryan (1992) contend that learning begins through the process of interest, exploration, and assimilation, and that it is a natural process. This implies that *learning and development need only to be facilitated and nurtured rather than directed and controlled.* Rigby, et al., (1992) indicated events that tend to have a controlling functional significance undermine intrinsic motivation, whereas those that are experienced as autonomy supportive have been shown to maintain or even enhance intrinsic motivation. *Intrinsic motivation is strengthened by positive feedback and may enhance perceived competence (Rigby, et al., 1992).* Critical feedback tends to diminish perceived competence as well as intrinsic motivation (Rigby, et al.). This is a significant implication for physical education where students are given positive, corrective, and, at times, negative feedback regarding their skills. The desire for students to participate in physical activity outside of a structured physical education class may also be affected through the use of critical feedback. Frederick and Ryan (1995) supported findings of Rigby, et al., that *the use of feedback will enhance the way one feels about one's self.* The way in which one perceives the functional significance of the feedback provided is critical to the effect it has on motivation (Frederick & Ryan, 1995). *Research has indicated that some high school students with visual impairment hesitate to participate in physical education activity until feedback on progress is given (*Korhonen, 2000*).*

Korhonen (2000) conducted a study of high school students with visual impairments from Finnish high schools. The researcher listed three determinants for students' participation in physical activity. The first determinant was the predisposing factors of knowledge, attitudes, and awareness, the second determinant was the enabling factors of physical ability, getting a guide, and opportunities. The third determinant was the reinforcing factors of social support, feedback on progress, and internal rewards.

The results of this study indicated that students waited for social support and feedback on progress before participating in physical activity. However, the author also indicated that the level of participation in physical education class was limited or non-existent due to a lack of social acceptance by peers and teachers. The results also indicated that activity participation depended on functional vision, and very little difference was indicated for activity levels between the low vision group and seeing peers.

However, results from Korhonen (2000) do not support findings by Winnick (1985) who reported that individuals with visual impairments perform below the physical fitness levels of their sighted peers. Fitness performance was also found to decrease as the degree of visual impairment increased. Winnick also stipulated there were three variables that affect physical performance of adolescents: severity of visual impairment, gender, and age. The author also suggested that levels of performance could also be explained by overprotection and the preconceived idea that

students with visual impairments lack the ability to participate in integrated physical education classes without extra supervision.

Participation in sport/physical activity as influenced by self-determination

Physical activity and play are thought to be important central parts of the lives of many students regardless of ability level (Gronmo & Augestad, 2001). Frederick and Ryan (1995) suggest that the way mentors, coaches, teachers, parents, and other significant figures try to motivate or guide an athlete is an important issue in sports motivation.

Gronmo and Augestad (2001) conducted a study of twenty blind youths ages 13-16 years. The candidates for this study consisted of students from a French Special School (FSBG), Norwegian Integrated Blind Students (NIBG) and two control groups of French sighted students and Norwegian sighted students. Physical tests were utilized from the Handbook for The Eurofit Tests of Physical Fitness (1993). The tests consisted of push-ups, sit-ups, 50 yard dash, balance on one preferred foot, sit-and-reach, standing broad jump, standing vertical jump, and the overhead medicine ball throw. No significant differences were found regarding the number of hours of physical education or activity between the FSBG and the NIBG. However, the authors reported that *the total blind group had significantly lower physical competence than the total sighted group with regard to all but two of the physical tests, the push-ups and sit-ups*. Results of the questionnaire 'Self-Perception for Adolescents' indicated that the total blind group stated global self-worth as being significantly lower than the sighted total group.

An accepted form of success in the field of exercise promotion is the adherence to a regular exercise program, which is dependent on the reasons for exercising. Mullan and Markland (1997) explored the intrinsic and extrinsic motivational reasons for exercising across the stages through which an individual passes from sedentary lifestyles to that of maintaining a regular exercise program. The researchers hypothesized that self-determination in the regulation of exercise behavior increases across the stages of change. The stages of change were labeled as pre-contemplation, contemplation, preparation, action and maintenance (Mullan & Markland, 1997). Three hundred fourteen individuals completed the following self-administrated questionnaires: the Behavioral Regulation in Exercise Questionnaire (BREQ) developed by Mullan, Markland, and Ingledew (1997); and the Stages of Change for Exercise Behavior developed by Beiner and Adams (1991). The results indicated that higher levels of self-determination were found among individuals in the maintenance stage and in the action stage (Mullan & Markland, 1997). The researchers suggested that *greater self-determination in the action and maintenance stages of change may lead to continued regular exercise, while less self-determined regulation may lead to a relapse in sedentary living*. This supports the results of an earlier study conducted on self-determination factors and their relationship to intrinsic motivation and motivational enhancement or diminishment (Frederick & Ryan, 1995).

Motivation has been identified as a key to setting goals and making the decisions that lead to the attainment of set goals and positive outcomes. The

development and acquisition of elements critical to a positive quality of life are influenced by support of self-determined behaviors and autonomy of students. In the studies presented here the researchers indicated that all behavior is determined through motivation (Deci, Vallerand, Pelletier, & Ryan, 1991; Ferrer-Caja & Weiss, 2000; Rigby, Deci, Patrick, & Ryan, 1992; Williams & Deci, 1996). Furthermore, most positive outcomes are the result of the enhancement of autonomy and self-determined behaviors by influencial social agents such as parents, teachers, school administrators, and peers. Finally, it has been indicated that students who enjoy an activity, and are given opportunity to choose the activity, tend to continue participating in the activity or behavior.

Chapter 3

Methods and Procedures

The purpose of this investigation is to study effects of visual impairment, age, and gender on self-determination opportunities of students with visual impairment and deaf-blindness in physical education, at home, with friends, at school, with health care, and perceived independence.

Selection of Participants

Fifty-four students, 31 boys and 23 girls, who were visually impaired or deaf-blind that attended a one-week summer sport camp were surveyed. The students ranged in age from 8 to 23 years. The students were placed into groups as determined by the sport classification of the USABA. Group B1 (totally blind) had 9 females and 11 males (n=20) with a mean age of 14.45 years, Group B2 (travel vision) consisted of 4 females and 8 males (n=12) with a mean age of 12.25 years, and Group B3 (legally blind) consisted of 10 females and 12 males (n=22) with a mean age of 14.23 years. The students were also arranged within the groups according to 2 age groups (8-15 years & 16-23 years) and gender.

Instrument

The Self-Determination Exercise Scale: Student Edition will be used. This instrument was originally validated by Abery, McGraw, and Smith (1995) at The University of Minnesota Institute on Community Integration for students with visual impairments or deaf-blindness. The face validity was assessed by reading each question to groups of educators, parents, adults with disabilities, and young adults

with and without disabilities. The individuals then indicated on a 1-10 point scale those items that were most pertinent to the definition of self-determination that was used at the University of Minnesota. For the purposes of original validation self-determination was defined as "exercising the degree of control that they desired over those aspects of life that they deemed important and wished to exercise control over." The instrument was then administered to groups of young adults ages 8-21 with disabilities, learning disabilities, mild mental retardation, autism, vision loss, deaf/hearing impaired, deaf-blindness, and without disabilities (N=360), as well as their parents and teachers. A previously field-tested version of the instrument was administered at the same time. Students were grouped by disability level according to intensity and frequency of aids needed. There were three disability level groups: no disability, mild disability, and moderate to severe disability; and three age groups 8-12,13-17, and 18 and older. The subscale scores and overall scores on the two instruments for all respondents students, parents, and teachers were correlated and found a strong correlation 0.83-0.94 for all versions across all age, disability, and respondent groups.

The instrument validated by Abery, McGraw, and Smith (1995) was not compared to any other instruments as the definition for validation of this instrument was different than those used by other researchers. Students were grouped on the basis of the intensity and frequency of supports received, and assessed by the degree to which this was associated with levels of personal control as expected. The results indicated a strong correlation across all ages and disability groups of 0.83-0.97.

A reliability study of the instrument validated by Abery, McGraw, and Smith (1995) included a two-week test-retest reliability as well as inter-rater reliability with groups of students with a variety of disabilities and their teachers/parents. The test-retest reliability, ranging from 0.81-0.97 was significant for all groups, indicating that impressions of the degree of control were stable. The test-retest reliability was highest for students with learning disabilities, vision loss, and those without disabilities, and was acceptable for those with mild mental retardation, autism, deaf-blindness and deaf/hearing impairments. Inter-rater reliability was conducted by having parents complete surveys that explicitly focused on family and home while teachers completed a different survey that focused on school. Student perceptions were compared with those of the teachers and the parents. No parent-teacher comparisons were done. Correlations were somewhat lower for most groups including students without disabilities, especially for those who were in the 14-18 year old age range. The range of 0.73-0.87 indicated greater congruence in reports for those students with the highest and lowest levels of control. The results also indicated that parents and teachers reported that students had more control than the students thought they did. This result is congruent with other studies (Abery, 2002).

The original scale (see Appendix A) contains five categories of questions with reference to five domains of the student's daily schedule: at home, with your friends, when caring for your health, at school, and at work. The students were provided three choices for answering the questions: "I decide" (student only), "We decide together" (student and parent or guardian), and "Someone else decides" (student has no input).

A scoring chart containing a column for the total responses for each answer was provided for each category. Each response is subjected to a multiplier. The "I decide" responses are multiplied by 2, "We decide together" by 1, and "Someone else decides" by 0. The sum of each column in the domain represents the domain score. A higher score indicates a more self-determined student.

The modifications to this scale consisted of 12 questions regarding physical education (see Appendix B). Five experts in the field of adapted physical education and special education validated the 12 questions. The physical education questions are in lieu of the "at work" section of the original scale.

The physical education questions were validated according to "The Item of Congruence Formula". Experts were asked to assign a +1 if the question met the objectives of the study, 0 if unsure, and a –1 if the question did not meet the objectives. Question 1 received a score of three points; four of the five experts assigned this question a +1 while one expert assigned the question a –1. Question 2, Question 3, and question 4 all received a score of 3 from the experts, four of whom assigned a +1 and one of whom assigned a score of –1 for the questions. A score of 5 was given for question 5. Question 6, question 7, and question 8 received a score of 2 from the experts. Question 9 received a score of 3. A score of 5 was assigned to question 10 and question 11. Question 12 received a score of 3.

The choices for answering these questions follow the format of the original questionnaire. The students were instructed that there were no wrong answers to these

questions. The scoring charts were not changed, but the "at work" category was altered to read "Physical Education".

Procedures

A letter of consent was obtained from the parent or legal guardian of each student (see Appendix C). The letter was sent with the student's information packet for the one-week summer sports camp. The letter of consent was returned to the researcher.

The questionnaire was read to all students by their camp counselor, the researcher, or the interpreter, and was completed within the first two days of camp.

Analysis of Data

A 2x2x3 (gender x age x level of visual impairment) multivariate analysis of variance (MANOVA) was conducted between 3 groups of students with visual impairments, two age groups, and two gender groups. The visual impairment categories included B1 (totally blind), B2 (travel vision) and B3 (legally blind). Age groups were categorized as 8-15 years and 16-23 years. A post-hoc analysis of variance (ANOVA) and t-tests with Scheffe the effect of each independent variable on self-determination scores for the following dependent variables, at home, at school, with friends, health care, and physical education.

Chapter 4

Results

The purpose of this investigation is to study the effects of visual impairment, age, and gender on self-determination in physical education, at home, with friends, with health care, and at school.

Data Analysis

Subscale scores

The total opportunity score (TOS) is representative of the total number of responses in each of the three response categories "I decide" (response 1), "We decide together" (response 2) and "Someone else decides" (response 3) for the five domains studied for all students (N=54). The variable at home provided 22 opportunities to respond, with friends 10 opportunities, health care 8 opportunities, at school 16 opportunities, and physical education provided 12 opportunities for a total of 68 response opportunities. A TOS sum of 3,616 responses and a mean score of 66.96 represents of all subjects (N=54) across all domains. Table 4.1 provides the population data for each response. The number of responses recorded for each category were added, and represents the total number of responses for each group. For example the total group (N=54) responded in the "I Decide" category 1,192 times. Five hundred and thirteen responses were recorded for the totally blind (B1) group (n=20), 266 responses were recorded for the travel vision (B2) group (n=12), and the legally blind (B3) group (n=22) recorded 413 responses.

	N	"I decide" (resp 1)	"We decide" (resp 2)	"Someone else" (resp 3)	TOS	M (TOS)
Total group	54	1192	729	1545	3616	66.96
B1	20	413	370	619	1392	66.29
B2	12	266	169	310	750	68.18
B3	22	513	359	616	1474	67.00

Table 4.1 Total opportunity scores of population

Figure 4.1 provides the frequency of responses for the total population (n=54) for the "I decide" (R1) category. One student responded five times in this category while another student responded in this category "45" times. Figure 4.2 provides the frequency of responses for category 2 "We decide together" (R2) for the total population (N=54). Three students responded twice in the "We decide together" category, while another student responded "42" times. Response 3 "Someone else decides" (R3) is shown in Figure 4.3. A student had "0" responses in this category, while another student responded "58" times in the "Someone else decides" category. Response three had both the lowest and the highest number of responses recorded for the questionnaire. The total responses are representative of all levels of visual acuity, and of all domains before the multipliers were applied to obtain the final domain scores.

Table 4.2 represents the sum of responses according to the three groups studied totally blind (B1), travel vision (B2), legally blind (B3), and genders for each of the response categories response 1 "I decide", response 2 "We decide together", and response 3 "Someone else decides".

Figure 4.1 Frequency of Responses for "I decide"

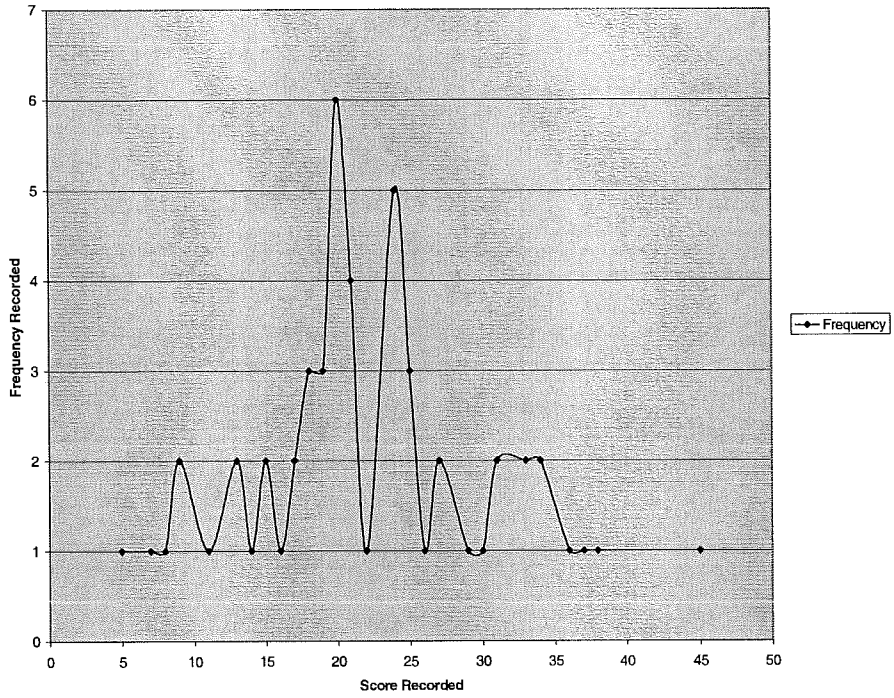


Figure 4.2 Frequency of Responses for "We decide together"

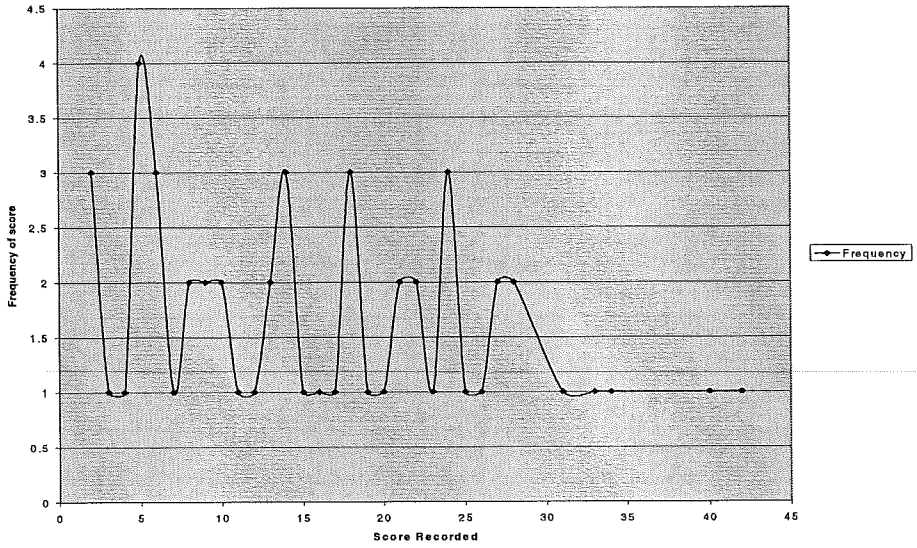
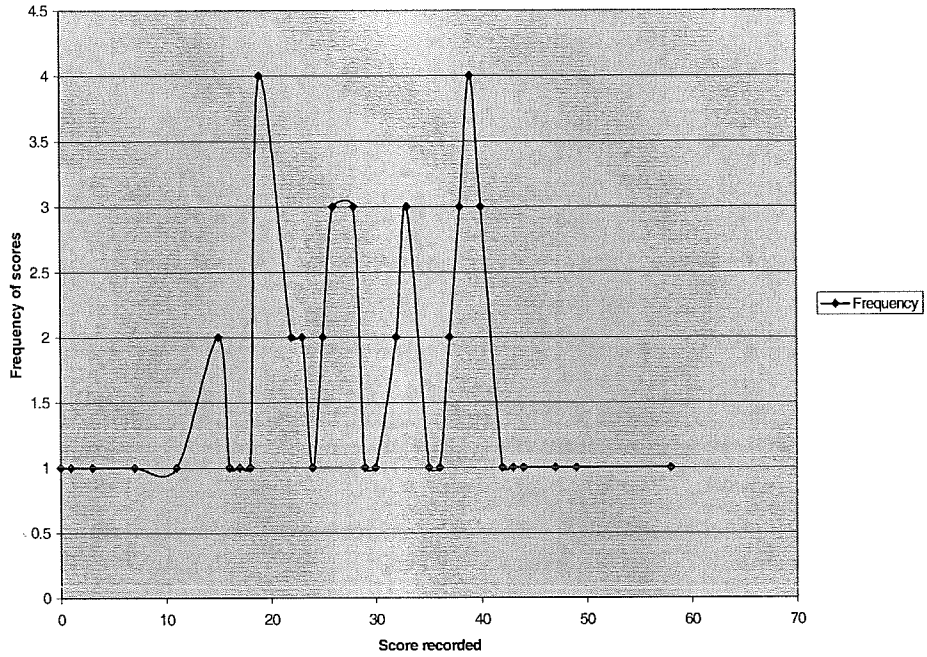


Figure 4.3 Frequency of Responses for "Someone else decides"



For the "I decide" (R1) category of responses Group B1 had the lowest response percentages at 28.9%, while group B2 had 35.6%, and group B3 had 34.3% across all domains studied. The "We decide" (R2) category had the lowest response percentages overall of the three options provided to the students. Group B1 responded 25.9%, group B2 22.6%, and group B3 24.0% of the time in this answer category across all domains. The highest percentages of responses recorded were in the "Someone else" (R3) category. Group B1 responded 43.3%, B2 41.4%, and B3 41.1% of the time in this category for the five domains studied.

			N	sum	M	%
"I decide" (R1)	B1	M	11	204	17	25
		F	09	209	23.22	34.2
		Tot	20	413	19.67	28.9
	B2	M	08	156	22.29	32.8
		F	04	110	27.50	40.4
		Tot	12	266	24.18	35.6

	B3	M	12	286	23.83	35.0
		F	10	227	22.7	33.4
		Tot	22	513	23.32	34.3
"We decide" (R2)	B1	M	11	226	18.83	27.7
		F	09	144	16	23.5
		Tot	22	370	19.62	25.9
	B2	M	08	109	15.57	22.9
		F	04	69	15	25.4
		Tot	12	169	15.36	22.6
	B3	M	12	172	14.33	21.1
		F	10	187	18.7	27.5
		Tot	22	359	16.32	24.0
"Someone else" (R3)	B1	M	11	369	30.75	45.2
		F	09	250	27.78	40.8
		Tot	20	619	29.48	43.3
	B2	M	08	208	29.71	43.7
		F	04	102	25.5	37.5
		Tot	12	310	28.18	41.4
	B3	M	12	350	29.17	42.9
		F	10	266	26.6	39.1
		Tot	22	616	28	41.1

Table 4.2 TOS for responses listed in gender & vision levels

Scoring Charts

To determine the self-determination opportunities available to students with visual impairments (N = 54) three levels of visual acuity (B1, B2, B3) were compared. Table 4.3 summarizes the population data descriptive statistics categorized by the domains home, with friends, health, school, and physical education. The mean scores represent the final domain scores after the multiplier had been applied. The highest possible mean score for the domain of home would have been 44, with friends 20, health 16, school 32, and the highest possible mean score for physical education would have been 24.

The column identified as M/C1 represents the average scores for domain questions before the multiplier. The domain home consisted of 22 questions, therefore the highest possible score would have been 22. A high average indicates (M/C1) the student is more self-determined. The closer the M/C1 score to zero the lower the level of self-determination. The M/C1 for group B1 was 0.9, which is extremely low, indicating that the students make most of their decisions with someone else or someone else makes the decisions. All groups are very low B2 averaged 1.01, while B3 averaged 1.07 in the home domain.

The column identified as M/C2 represents the averages after the multipliers were factored into the score sheets. The closer the M/C2 average to zero, the lower the level of self-determination; the closer the score is to 44 (the maximum), the higher the level of self-determination. The M/C2 scores for the three groups are low across all domains. Group B1 averaged 0.47, B2 averaged 0.51, and B3 averaged 0.53 which indicates that many of the students make decisions with someone else or someone else makes decisions for them.

			n	M	SD	M/C1	M/C2
Home	B1	8-15 years	13	20.15	6.012	0.91	0.46
		16-23 years	7	22.00	6.608	1	0.5
		Total	20	20.80	6.118	0.9	0.47
	B2	8-15 years	11	21.00	5.983	0.95	0.48
		16-23 years	1	36.00		1.64	0.82
		Total	12	22.25	7.162	1.01	0.51
	B3	8-15 years	15	21.93	5.970	1	0.5
		16-23 years	7	26.86	7.267	1.22	0.61
		Total	22	23.50	6.660	1.07	0.53
W/Friends	B1	8-15 years	13	9.77	3.370	0.44	0.22
		16-23 years	7	10.71	6.824	0.49	0.24
		Total	20	10.10	4.701	0.46	0.23
	B2	8-15 years	11	8.45	4.180	0.38	0.19

		16-23 years	1	13.00		0.59	0.3
		Total	12	8.83	4.196	0.4	0.2
	B3	8-15 years	15	9.07	4.131	0.41	0.21
		16-23 years	7	11.43	2.760	0.52	2.9
		Total	22	9.82	3.850	0.45	0.22
Health	B1	8-15 years	13	4.00	3.786	0.18	0.09
		16-23 years	7	4.14	4.914	0.19	0.09
		Total	20	4.05	4.084	0.18	0.09
	B2	8-15 years	11	4.18	5.212	0.19	0.1
		16-23 years	1	12.00		0.55	0.27
		Total	12	4.83	5.458	0.22	0.11
	B3	8-15 years	15	2.00	1.648	0.09	0.05
		16-23 years	7	4.43	3.101	0.20	0.1
		total	22	2.77	2.429	0.13	0.06
School	B1	8-15 years	13	15.62	5.347	0.71	0.36
		16-23 years	7	13.71	9.621	0.62	0.31
		total	20	14.95	6.939	0.68	0.34
	B2	8-15 years	11	17.91	5.127	0.81	0.41
		16-23 years	1	26.00		1.18	0.59
		total	12	18.58	5.418	0.84	0.42
	B3	8-15 years	15	18.53	4.015	0.84	0.42
		16-23 years	7	19.14	4.220	0.87	0.44
		total	22	18.73	3.990	0.85	0.43
Phys. Ed.	B1	8-15 years	13	6.46	5.125	0.29	0.15
		16-23 years	7	6.29	5.122	0.29	0.14
		total	20	6.40	4.988	0.29	0.15
	B2	8-15 years	11	8.64	5.608	0.39	0.2
		16-23 years	1	15.00		0.68	0.34
		total	12	9.17	5.654	0.42	0.21
	B3	8-15 years	15	6.67	3.848	0.30	0.15
		16-23 years	7	11.29	6.047	0.51	0.26
		total	22	8.14	5.017	0.37	0.19

Table 4.3 Descriptive statistics of population

Descriptive statistics for a comparison between each dependent variable using gender as the fixed variable is summarized in Table 4.4.

			n	M	SD
Home total	male	8-15 years	23	19.83	5.906
		16-23 years	8	25.37	7.070
		total	31	21.26	6.583
	female	8-15 years	16	22.88	5.524
		16-23 years	7	25.00	8.524
		total	23	23.52	6.452
w/friends total	male	8-15 years	23	9.17	3.298

		16-23 years	8	10.88	5.743
		total	31	9.61	4.031
	female	8-15 years	16	9.06	4.626
		16-23 years	7	11.57	4.036
		total	23	9.83	4.519
health total	male	8-15 years	23	2.91	3.566
		16-23 years	8	3.25	3.955
		total	31	3.00	3.606
	female	8-15 years	16	3.81	3.953
		16-23 years	7	6.57	4.237
		total	23	4.65	4.152
school total	male	8-15 years	23	16.13	4.434
		16-23 years	8	16.25	8.328
		total	31	16.16	50532
	female	8-15 years	16	19.19	4.996
		16-23 years	7	18.00	7.681
		total	23	18.83	5.781
physical education total	male	8-15 years	23	6.78	4.306
		16-23 years	8	10.38	6.523
		total	31	7.71	5.107
	female	8-15 years	16	7.69	5.510
		16-23 years	7	7.86	5.460
		total	23	7.74	5.370

Table 4.4 Descriptive statistics according to gender

2X2X3 Multivariate analysis of variance (MANOVA) compared the effects of visual acuity (totally blind, travel vision, legally blind), gender, and age across five domains/dependent variables (home, w/friends, health, school, physical education). The global view of the data was described by Wilks' Lambda trace value of 0.590 ($F_{(10,78)}=2.354^{b}$, $p=0.017$), which indicated significant differences exist between levels of visual impairment. The global view indicated no significant differences for gender ($p=0.055$) and age ($p=0.059$). The results of the MANOVA indicated that a statistical difference exists between levels of visual acuity and suggested that post-hoc tests were appropriate when the dependent variables are considered to be multicollinear.

Post-hoc analysis of variance (ANOVA) was used for univariate comparisons using estimated marginal means. Results are shown in Table 4.5.

Source	DV	ss	df	ms	F	p
Imp.	Home	128.127	2	64.064	1.725	.190
	W/friends	1.018	2	.509	.026	.974
	Health	60.185	2	30.092	2.299	.113
	School	364.772	2	182.386	6.663	.003
	PE	104.678	2	52.339	1.915	.160
Error	Home	1596.982	43	37.139		
	W/friends	845.479	43	19.662		
	Health	562.912	43	13.091		
	School	1176.983	43	27.372		
	PE	1175.278	43	27.332		

Table 4.5 Post-hoc analysis of variance

The results indicate that the level of visual impairment had a significant effect ($F_{(2,43)}$= 6.663, p=0.003) based on the linearly independent pairwise comparisons among the estimated marginal means on the dependent variable school. Pairwise comparisons were made based on estimated marginal means Table 4.6 summarizes the data. Table 4.7 provides an overview of significance/non-significance in the domains (variables) studied according to age, gender, and visual impairment.

DV	(I) Impair	(J) Impair	p
Home	totally blind	travel vision	.143
		legally blind	.116
	travel vision	totally blind	.143
		legally blind	.780
	legally blind	totally blind	.116
		travel vision	.780
W/friends	totally blind	travel vision	.976
		legally blind	.828
	travel vision	totally blind	.976
		legally blind	.891
	legally blind	totally blind	.828
		travel vision	.891

Health	totally blind	travel vision	.048
		legally blind	.858
	travel vision	totally blind	.048
		legally blind	.061
	legally blind	totally blind	.858
		travel vision	.061
School	totally blind	visually imp.	.003
		legally blind	.005
	travel vision	totally blind	.003
		legally blind	.372
	legally blind	totally blind	.005
		travel vision	.372
Physical Education			
	totally blind	travel vision	.076
		legally blind	.173
	travel vision	totally blind	.076
		legally blind	.440
	legally blind	totally blind	.173
		travel vision	.440

Table 4.6. Pairwise comparisons based on estimated marginal means

Wilks' Lambda value of 0.622 ($F_{(10,78)}=2.088^{b}$, p=.035) was indicated when F tests were based on the linearly independent pairwise comparisons among the estimated marginal means. Pairwise comparisons indicated a significant difference exists in the domain (DV) of health between the totally blind (B1) group (n=20, SD=4.084) and the travel vision (B2) group (n=12, SD=5.458) with a p value of 0.048. A significant difference exists in the domain (DV) school between the totally blind (B1) group (n=20, SD=6.939) and the travel vision (B2) group (n=12, SD=5.418) with a p value of 0.003. A significance was also indicated between the totally blind (B1) group (n=20, SD=4.988) and the legally blind (B3) group (n=22, SD=3.990) with a p value of 0.005 in the school domain.

Variable	Gender	Age	VI
Home	None	None	None
W/friends	None	None	None
Health	None	None	B1-B2
School	None	None	B1-B2
			B1-B3
Phys. Ed.	None	None	None

Table 4.7 Significance/non-significance

Chapter 5

Discussion

This research had 3 goals, to determine: (1) if self-determination opportunities are affected by visual impairments or deaf-blindness; (2) if boys are provided more self-determination opportunities than girls; and (3) if older students are provided more self-determination opportunities than younger students.

The aim of this study was to determine whether the level of visual acuity, gender, or age affected self-determination at home, with friends, with health care, at school, and participation in physical education classes of students with visual impairments. The areas studied were considered to be multicollinear.

Question 1: self-determination affected by visual impairment

Not withstanding these limitations; and if one accepts the theory of self-determination as: the development and acquisition of such elements as the ability to define goals and make decisions/choices that are critical to a positive quality of life (Deci et al., 1994; Sherrill, 1998; Ward, 1996; Wehmeyer et al., 1998), the results indicate that the level of visual acuity of the students significantly affected self-determination opportunities with regard to school and health care.

Question 2: are boys provided more self-determination opportunities than girls?

The results of the MANOVA indicated that there were no significant differences between the genders at the global level. Post-hoc tests were not conducted.

Question 3: Are older students provided more self-determination opportunities than younger students?

The MANOVA results indicated that there were no significant differences between the age groups at the global level. Post-hoc tests were not conducted.

Self-determination opportunities influence many facets of one's life. Deci, et al., (1994) stipulated that there are two general classes of motivational behaviors associated with self-determination, those that represent the process of choice and those that are representative of compliance. The social perception of individuals with disabilities, in this case visual impairment, need long-term care and protection (Ward, 1996; Wehmeyer, 1996). Although strides have been taken with laws governing equality for individuals with disabilities the mean scores indicate the students in this study are still very much controlled.

The questionnaire variable at home provided 22 opportunities for the students to respond. This area researched such common things as hair cuts, meals, bedtimes, bedroom decorations, chores, clothing, time to do homework etc. The scores in this area, although very low, indicate they are provided opportunity to make or be a part of decisions. According to the validation report of Abery (2002), parents also perceive students/children to have control in the home. A critical factor when remembering that being self-determined does not mean doing everything one's self but rather having control over what is being done.

One student indicated that although she is given opportunity to be part of decisions/choices at home, mom helps match the clothing she wears. Yet another

student indicated that mom decides on the hairstyle and what clothes are bought. She (the student) decides on the clothes to put on in the morning to go to school. She also indicated that dad decides on free time and chores, but many of her replies for this section of the questionnaire were in the "I decide" category.

The post-hoc tests indicated no significant differences existed between the levels of visual acuity for the students with regard to friends. This category on the questionnaire provided ten opportunities to answer questions regarding things such as what they do with their friends, when, who, how often time is spent with friends and where they go etc. The mean scores for the three groups were low, which indicated many students answered more frequently in the response categories of "We decide together" and "Someone else decides".

Not all students answered all ten questions in this section, however, some students provided more than one response for some of the questions. This is an area in many of our lives that we take for granted, unfortunately for one student in the totally blind group (B1) it was a traumatic experience to even have the questions read to him. The youngster refused to answer the questions and became very distraught when his counselor asked him to do so. The youngster claimed he had no friends, and that he was teased, and ridiculed often by his peers. Any questions throughout the questionnaire that had any reference to friends were left blank. This supports earlier findings of Huurre, et al., (1999) that many students with visual impairments were found to be socially isolated, have few friends, and that in some instances these students are lost on the playgrounds during recess.

A young female student also in the totally blind group (B1) indicated that she did have friends but left four questions in this section blank. Her responses for the first six questions were in the "I decide" category. She did not participate in activities such as sleepovers or going out with her friends to the mall, which is something that many of her sighted peers take pleasure in doing. The reason for not taking part in these sorts of activities was not indicated. One can only speculate that it is a form of over-protection on the part of the parents, or a fear factor of the student, or perhaps her friend's parents.

This is a disturbing finding regarding blind youth not having friends, being teased, ridiculed, or missing out on many of the rights of passage as a growing adolescent in the United States. However, are the restrictions or lack of opportunity based solely on the fact that these students are totally blind, or is it common among today's youth who are "labeled" as being different?

There are significant differences between students who are totally blind (B1) and who have travel vision (B2) with regard to choices of when to go to a doctor, time to take medications, and their health care in general. Williams, et al., (1998) found that improved physiological outcomes may be displayed when health care is patient-centered. The results of the current study seem to indicate that students in the totally blind group (B1), although all groups scored low, are not provided the same opportunity to be a part of decisions regarding health care as the students in the visually impaired group (B2). This is supported by the previously mentioned findings of Williams, et al., when health care is not provided in a patient-centered approach

the physiological well being of a group may not have the same positive outcomes. No significant differences were indicated between the legally blind (B3) group and both the travel vision (B2), or totally blind (B1) groups. The mean scores where low for all groups, many of the students are not part of the decision making process in the health care domain. Williams, et al., stipulated that treatment decisions ultimately belong to the patient, however care must be taken when interpreting the findings of the current study were the age of the population was youth and young adults (8-23 years). Williams, et al. conducted their research with a group of adults with a mean age of 54.5 years.

The level of visual acuity was also found to be a significant factor in the self-determination opportunities provided in the domain of school. It was found that a significant difference exists between the totally blind (B1) group and both travel vision (B2) and legally blind (B3) groups. However, no significant differences were found to exist in the comparison of the travel vision (B2) group and the legally blind (B3) group. All mean scores were extremely low but the mean score of the totally blind (B1) group is lower than the other two groups. This may be interpreted to mean they do not have the same opportunity as the other groups to be part of decisions regarding educational experiences. Decisions for the totally blind (B1) group are made by someone else, which implies that limited self-determination opportunities are being provided. Many students indicated they are not active in their individual education plan (IEP) meetings. Most students indicated they do not attend these critical meetings where educational decisions are made. Vallerand, et al., (1997)

discovered that when students are allowed to make decisions regarding schooling it is an effective way to increase self-determined motivation, which results in positive outcomes. This does not seem to be the finding for the totally blind (B1) group. The totally blind (B1) group does not conform to the findings of Gothelf, et al., (1994) who stated that teaching self-determination skills is important to all students. Gothelf, et al. (1994) stated that through instruction on choice-making deaf-blind students can control part of their environment, thus making it meaningful and motivating.

Another factor that may play a significant role in the self-determination opportunities provided to these students may be the type of school, separate school or a public school. However, this was not a focus of the current study. Gronmo and Augestad (2001) conducted a study of physical activity and self-concept using both integrated and segregated schools, and found no significant differences between the physical activity levels of the students in either environment. The fact all participants were included in either general or adapted physical education is not a major factor when generalizing the results of the current study.

Wehmeyer and Schwartz (1998) reported that although parents, teachers, and individuals working with students with mental retardation or developmental disabilities think it important to teach skills for the development of self-determination, the skills are not being taught to the population that could benefit the most. To become effective problem solvers, the students need to be taught skills to make decisions, or choose outcomes to enable them to become adults who can take greater control over their lives (Wehmeyer & Schwartz, 1998).

An effective way to begin teaching problem solving, cooperative and team working skills, is through effective physical education programming. When reviewing the questionnaires a few students indicated they did not have opportunity to participate in physical education classes on a regular basis. The current data is supported by the 2000 study of Korhonen that found the level of participation in physical education class was limited or non-existent due to lack of social acceptance by peers and teachers. Winnick (1985) also indicated that overprotection, and the preconceived notion that adolescents' with visual impairments lack the ability to participate in physical education classes are contributing barriers to active participation.

The mean scores for the current study are very low, group B1 (totally blind) 6.40, group B2 (travel vision) 9.17 and group B3 (legally blind) 8.14. Korhonen (2000) indicated participation depended on functional vision and that little difference was found for activity levels between a low vision group and seeing peers. This supports findings of Gronmo and Augestad who found that the total blind group in their study had significantly lower physical competence than the sighted group with regard to all but two physical tests (push-ups, sit-ups) of the Eurofit tests of physical fitness (1993). However, the current study found no significant differences between levels of visual acuity, all levels were low in this area.

The low scores for the current study could be interpreted to mean the students' participation in physical activity was due to lack of exposure, knowledge, and enabling factors: physical ability, getting a guide, and opportunities being provided as

were results of Korhonen's (2000) study. The students in the current study indicated on the questionnaires that they were in fact taking PT (physical therapy) in lieu of physical education, which is illegal. Simple decisions of what team or who would be their partner were being made for them. When partner activities are being used many times the students select a partner of their choice, unless the teacher indicates a behavior problem exists when two specific students work together. This choice is common practice for sighted students, but not for students with visual impairments according to current research. Vallerand, et al., (1997) stated that allowing students to make some decisions about their schooling is an effective way of increasing self-determined motivation, however, the current study implies that quite the opposite is being practiced.

The gender results may have been effected by the small population (n=54) used for the current study. Although the number of participants boys (31), girls (23) is relatively close a large population may in fact yield different results. This is supported by Gronmo and Augestad's (2001) study of blind youth, self-concept, and physical activity, which indicated that the results may have been affected by the fact that nearly twice as many blind girls (13) as boys (7) participated in their study. The researchers were aware that boy's preferences might be qualitatively different from those of girls. To the contrary Ferrer-Caja and Weiss (2000) investigated relationships among social and individual factors, intrinsic motivation, and motivated behaviors in high school physical education classes. They had a population of 206 male and 201 female students ranging in age from 14 to 19 years. Some differences were found

between the female and male students regarding certain relationships, but found that the pattern of results was very similar for both genders. One important finding was indicated in the literature of Ferrer-Caja and Weiss, who stated their findings were an extension of current literature, the factors predicting motivated behaviors (i.e., effort, choice of tasks and persistence), participating in physical education for fun, excitement, and enjoyment of learning were positively and indirectly associated with learning climate, task orientation, and perceived competence, but for female students only were positively related to self-determination and negatively related to ego orientation. A finding supported by a literature review conducted by Fredrick and Ryan (1995) that men showed higher competence motivation in sport activity than women, while women showed higher body-related motivation when related to physical activity participation motivation. In the 2000 study of Korhonen students with visual impairments participated in physical activity out of interest and basic fitness as a main goal for both genders.

Conclusion/Summary

The students involved in this study are not being provided high levels of self-determination opportunities across their multitude of daily activities. The TOS told the story that many of the students have many choices made by "someone else", be it their mom, dad, teacher or administrator. The highest percentage scores were in the "Someone else decides" category. It is surprising that the "I decide" response category had the second highest score and the "We decide" had the lowest scores

across all domains for all students (N=54). The low scores have been interpreted to indicate that students also have low levels of perceived independence.

An implication of the current study is that although laws such as the Civil Rights Act, Education of All Handicapped Students Act (PL94-142), and the Individuals with Disabilities Education Act (PL105-17) have been passed through legislation to provide rights to individuals with disabilities; it is not common practice physical education is required, but not always provided. Programs need to be developed to allow individuals with disabilities (visual impairments) to make choices/decisions and actively participate in school (i.e. IEP meetings and decisions), physical education, and activities of daily living. Legislation does not appear to be enough many barriers still exist. The laws will only work if people adhere to and respect them. Community and professional programs for family, friends, teachers, the individual with the disability, and anyone who works with, around or for this population need to be provided skills, knowledge of disability, and an opportunity to develop a positive attitude toward individuals with disabilities. For example:

- Programs to teach self-determination to children
- Community support groups (discussion groups, intervention)
- Recreational programs (family oriented, hiking, tandem biking, crafts, canoeing, camping, etc.)
- Disability awareness programs (simulations, disabled/non-disabled partner activities, day in my [disabled] shoes/wheelchair/cane)
- Competitive sporting programs (USABA – goal ball, wrestling, judo, swimming)

- Track and Field competitions (with family, friends)
- Share a book program
- Run with a buddy program (sighted guides – family, friend)
- Fitness programs (weight training, aerobics)
- Horse back riding
- Guide dog availability (training and provision of)
- Peer tutoring
- Scoial events (dances, dinners)
- Big brothers & big sisters

The promotion of greater self-determination, which means a greater sense of choice, self-initiation of behavior, and personal responsibility is not being provided to students with visual impairments. The development and acquisition of skills critical to a positive quality of life need to be taught to all individuals regardless of cognitive or physiological limitations. These skills need to be taught starting at an early age to individuals who would benefit from them the most. This is supported by research indicating that although teachers, researchers, administrators, and parents think it important to teach students skills to become self-determined it is not a part of their curricular goals (Wehmeyer & Schwartz, 1998).

Finally students need to make more than the 28.9%, 35.6% and 34.3% of their own decisions. If societal beliefs are ever going to change these percentages need to be raised. These individuals need to be provided the same opportunities that

nondisabled individuals get to make decisions, and learn from their mistakes just like the rest of us. The bumps and bruises that occur during the process of maturing is what life is about. You make mistakes, learn from those mistakes, and hopefully do not make the same one again. Over 40% of decisions are made for the individuals who participated in this study, the population is young, but it needs to start somewhere. Why not with this generation?

Perhaps future research should include curricular goals, IEP objectives both long term and short term goals regarding self-determination opportunities for students with visual impairments. Studies utilizing greater numbers, a comparison of students from different countries, rural/city, different school programs and comparisons to same age sighted peers.

What types of programs are available to friends, family, teachers, future teachers of the visually impaired, coaches of visually impaired? Are support or discussion groups available to the peers of students with visual impairments who attend public schools?

Many of the barriers and societal beliefs of two decades ago are still in existence today. We as a society have made many tremendous strides forward but only through a common goal of researchers, educators, administrators, parents, and individuals with visual impairment or deaf-blindness will we continue to make advancements in the treatment, respect, and dignity provided to this population.

Appendix A

Self-determination Exercise Scale: Student Edition

Original

Subject ID: _____

SELF-DETERMINATION EXERCISE SCALE: STUDENT EDITION

University of Minnesota
Institute on Community Integration
Brian Abery, Ph.D., Kevin McGrew, Ph.D., John Smith, B.S.

Background Information:

Your Name: _____ Date: _____

Your School: _____ Your Birthdate: _____

Directions: The following questions ask you to rate how much control you have over your life. Sometimes you make decisions on your own. Sometimes you make decisions together with others (e.g., parents, teachers, friends). In other cases, people such as your parents or teachers make decisions for you. This questionnaire is to help us better understand the areas of your life over which you have control.

The questions that follow will ask you about many decisions in your life, both large and small. Please answer each question based upon who was most likely to make each decision **OVER THE LAST THREE MONTHS.**

Fill in the circle under **"I decide"** if the decision is one that you usually make by yourself.

Fill in the circle under ***"Someone else decides"*** if the decision is one your parents, other family members, teachers or friends usually make for you.

Fill in the circle under ***"We decide together"*** if the decision is one that you and other people such as your parents, friends, and teachers usually make together.

For example, think about the statement: *Who chooses what you eat for breakfast?*

If you usually decide what you will eat for breakfast on your own, darken the circle under *"I decide".* If your parents or someone else usually choose what you have for breakfast, fill in the circle under *"someone else decides."* If you and your parents usually make the choice together, fill in the circle under *"We decide together."*

There are no right or wrong answers to these questions. In some cases, it may be that more than one answer is true. If this occurs, please answer the question in a way that shows *what happens most of the time.*

If you are unsure as to how to answer a question, please *use your best judgement.*

AT HOME

		I decide	We decide together	Someone else decides
1.	Who decides how your hair is cut?	✿	✿	✿
2.	Who chooses what food you eat for supper?	✿	✿	✿
3.	Who decides what time you go to bed?	✿	✿	✿
4.	Who decides how your bedroom is decorated?	✿	✿	✿
5.	Who decides what you buy with your own spending money?	✿	✿	✿
6.	Who decides what recreational activities (e.g., softball, basketball, school clubs) you are involved in?	✿	✿	✿
7.	Who decides if you will go along when your family goes out?	✿	✿	✿
8.	Who decides when your friends can come to your house?	✿	✿	✿
9.	Who decides what you watch on TV?	✿	✿	✿
10.	Who decides where your family goes on vacations?	✿	✿	✿
11.	Who chooses the community activities (e.g., YMCA, Scouts) in which you take part?	✿	✿	✿
12.	Who decides what chores you do at home?	✿	✿	✿
13.	Who has a say in the daily decisions your family makes (e.g., what to have for lunch)?	✿	✿	✿
14.	Who makes decisions when your family is buying something that is expensive (e.g., a television, stereo, furniture)?	✿	✿	✿
15.	Who picks out the clothes you buy?	✿	✿	✿
16.	Who decides when/what time you need to do your chores?	✿	✿	✿
17.	Who chooses how you spend your free time at home?	✿	✿	✿
18.	Who chooses what clothes you wear each day?	✿	✿	✿
19.	Who helps make decisions about small things that your family buys (e.g., cereal or other food items)?	✿	✿	✿
20.	Who decides at what time you need to do your homework?	✿	✿	✿
21.	Who decides how long you can spend on the telephone talking to friends?	✿	✿	✿

2.	Who chooses whether or not you go to religious services (e.g., church, temple, synagogue, etc.)?	✿	✿	✿

I decide

We decide together

Someone else decides

WITH YOUR FRIENDS

1.	Who decides *what* you do with your friends?	✿	✿	✿
2.	Who decides *when* you see your friends?	✿	✿	✿
3.	Who decides *who* your friends are?	✿	✿	✿
4.	Who decides what time you need to come home when you go out with friends or go to a friend's house?	✿	✿	✿
5.	Who decides how often you see your friends?	✿	✿	✿
6.	Who decides how you will get to places in the community (e.g., movies, stores) with your friends?	✿	✿	✿
7.	Who decides where you spend time with your friends (e.g., bedroom, family room) when they come over to your house?	✿	✿	✿
8.	Who chooses whether or not you can go out with your friends (e.g., to the movies)?	✿	✿	✿
9.	Who decides where you will "hang out" with your friends?	✿	✿	✿
10.	Who decides whether you can stay overnight at a friend's house?	✿	✿	✿

I decide

We decide together

Someone else decides

WHEN CARING FOR YOUR HEALTH

1.	Who decides if you need medicine (such as aspirin, Tylenol, cold medicine)?	✿	✿	✿
2.	Who decides if you need to see your doctor?	✿	✿	✿
3.	Who decides if you are too sick to go to school?	✿	✿	✿
4.	Who decides if you'll take medicine that your doctor has prescribed?	✿	✿	✿
5.	Who selected the doctor you go to?	✿	✿	✿

).	Who tells your doctor why you need to see him/her?	✿	✿	✿
'.	Who decides when you need to go to the dentist?	✿	✿	✿
).	Who asks questions of the doctor when you go for a visit?	✿	✿	✿
		I decide	We decide together	Someone else decides

.T SCHOOL

1.	Who decides how you get to school (for example, drive yourself, take a bus, ride with a friend)?	✿	✿	✿
2.	Who selects the tasks/activities you work on in school?	✿	✿	✿
3.	Who decides which activities you will be involved in after school (clubs, Scouts, sports, etc.)?	✿	✿	✿
4.	Who decides when you need help in class?	✿	✿	✿
5.	Who chooses *who* will help you when you need help in class?	✿	✿	✿
6.	Who chooses how you spend your free time in the classroom?	✿	✿	✿
7.	Who decides when you go to the restroom?	✿	✿	✿
8.	Who decides *who* you eat lunch with?	✿	✿	✿
9.	Who chooses what you get to eat for lunch at school?	✿	✿	✿
10.	Who decides with whom you can sit and talk during free time in the classroom?	✿	✿	✿
11.	Who chose which school you attend?	✿	✿	✿
12.	Who chooses *who* you will work with on group assignments?	✿	✿	✿
13.	Who decides where you will sit in the classroom?	✿	✿	✿
14.	Who selects the classes you will take?	✿	✿	✿
15.	Who chooses how your locker or other personal space at school will be decorated?	✿	✿	✿
16.	Who chooses how you spend your personal money at school (e.g., snacks, supplies, etc.)?	✿	✿	✿

EASE ANSWER THE FOLLOWING FOUR QUESTIONS WITH A YES/NO SWER.	YES	NO
My parent(s)/guardian(s) or teacher(s) *have invited me* to attend meetings where we talk about how well I am doing in school.	✿	✿

I have gone to meetings this year with my parent(s)/guardian(s) and teacher(s) to talk about how well I am doing in school.	✿	✿
My parent(s)/guardian(s) and teacher(s) ask me what I think at school meetings.	✿	✿
I help my parent(s)/guardian(s) and teacher(s) decide on the things I will do at school.	✿	✿

VORK

u have a job or are you in a job training program? ___ YES ___ NO

ES, please answer the questions below.

O, you are finished with this survey.

WORK

	I decide	We decide together	Someone else decides
Who decided that you would work/be in job training?	✿	✿	✿
Who chose the *type* of work you do (e.g., retail, food service, office)?	✿	✿	✿
Who decided *where* you work?	✿	✿	✿
Who decides which days and hours you work?	✿	✿	✿
Who decides with whom you work on tasks that need more than one person to complete them?	✿	✿	✿
Who decides what job tasks are your responsibility?	✿	✿	✿
Who decides when you can go for breaks/lunch at work?	✿	✿	✿
Who decides how long you can spend on break/at lunch?	✿	✿	✿
Who decides *how* you get to work?	✿	✿	✿
Who chose how or whether you can decorate your work space?	✿	✿	✿
Who decides what clothes you can wear to your work/job training program?	✿	✿	✿
Who decides *when* you can take days off from work?	✿	✿	✿

ring Charts

At Home			
	I Decide	We Decide Together	Someone Else Decides
; re-nses			
ltiplier	x 2	x 1	x 0
umn al		0	
Domain Score			

With Your Friends			
	I Decide	We Decide Together	Someone Else Decides
# of re-sponses			
Multiplier	x 2	x 1	x 0
Column Total		0	
Domain Score			

When Caring For Your Health			
	I Decide	We Decide Together	Someone Else Decides
f re-nses			
ltiplier	x 2	x 1	x 0
lumn al		0	
Domain Score			

At School			
	I Decide	We Decide Together	Someone Else Decides
# of re-sponses			
Multiplier	x 2	x 1	x 0
Column Total		0	
Domain Score			

At Work			
	I Decide	We Decide Together	Someone Else Decides
f re-nses			
ıltiplier	x 2	x 1	x 0
lumn tal		0	
Domain Score			

Student Opportunities Summary	Number of Responses			**Domain Score**
	I Decide	We Decide Together	Someone Else Decides	
At home				
With your friends				
When caring for your health				
At school				
At work				
Totals by response type				
Total Opportunity Score				

Appendix B

The Self-determination Exercise Scale: Student Edition

Modified Version (2002)

Subject ID: _____

SELF-DETERMINATION EXERCISE SCALE: STUDENT EDITION

Background Information:

Your Name: _____ Date: _____

Your School: _____ Birthdate: _____ Visual Class: _____

Directions: The following questions ask you to rate how much control you have over your life. Sometimes you make decisions on your own. Sometimes you make decisions together with others (e.g., parents, teachers, friends). In other cases, people such as your parents or teachers make decisions for you. This questionnaire is to help us better understand the areas of your life over which you have control.

The questions that follow will ask you about many decisions in your life, both large and small. Please answer each question based upon who was most likely to make each decision **OVER THE LAST THREE MONTHS**.

Fill in the circle under **"I decide"** if the decision is one that you usually make by yourself.

Fill in the circle under ***"Someone else decides"*** if the decision is one your parents, other family members, teachers or friends usually make for you.

Fill in the circle under ***"We decide together"*** if the decision is one that you and other people such as your parents, friends, and teachers usually make together.

For example, think about the statement: *Who chooses what you eat for breakfast?*

If you usually decide what you will eat for breakfast on your own, darken the circle under *"I decide".* If your parents or someone else usually choose what you have for breakfast, fill in the circle under *"someone else decides."* If you and your parents usually make the choice together, fill in the circle under *"We decide together."*

There are no right or wrong answers to these questions. In some cases, it may be that more than one answer is true. If this occurs, please answer the question in a way that shows *what happens most of the time.*

If you are unsure as to how to answer a question, please *use your best judgement.*

1. I decide

2. We decide together

3. Someone else decides

	AT HOME	1	2	3
1.	Who decides how your hair is cut?	✿	✿	✿
2.	Who chooses what food you eat for supper?	✿	✿	✿
3.	Who decides what time you go to bed?	✿	✿	✿
4.	Who decides how your bedroom is decorated?	✿	✿	✿
5.	Who decides what you buy with your own spending money?	✿	✿	✿
6.	Who decides what recreational activities (e.g., softball, basketball, school clubs) you are involved in?	✿	✿	✿
7.	Who decides if you will go along when your family goes out?	✿	✿	✿
8.	Who decides when your friends can come to your house?	✿	✿	✿
9.	Who decides what you watch on TV?	✿	✿	✿
10.	Who decides where your family goes on vacations?	✿	✿	✿
11.	Who chooses the community activities (e.g., YMCA, Scouts) in which you take part?	✿	✿	✿
12.	Who decides what chores you do at home?	✿	✿	✿
13.	Who has a say in the daily decisions your family makes (e.g., what to have for lunch)?	✿	✿	✿
14.	Who makes decisions when your family is buying something that is expensive (e.g., a television, stereo, furniture)?	✿	✿	✿
15.	Who picks out the clothes you buy?	✿	✿	✿
16.	Who decides when/what time you need to do your chores?	✿	✿	✿
17.	Who chooses how you spend your free time at home?	✿	✿	✿
18.	Who chooses what clothes you wear each day?	✿	✿	✿
19.	Who helps make decisions about small things that your family buys (e.g., cereal or other food items)?	✿	✿	✿
20.	Who decides at what time you need to do your homework?	✿	✿	✿
21.	Who decides how long you can spend on the telephone talking to friends?	✿	✿	✿

2.	Who chooses whether or not you go to religious services (e.g., church, temple, synagogue, etc.)?	✿	✿	✿

1. I decide

2. We decide together

3. Someone else decides

WITH YOUR FRIENDS

1.	Who decides *what* you do with your friends?	✿	✿	✿
2.	Who decides *when* you see your friends?	✿	✿	✿
3.	Who decides *who* your friends are?	✿	✿	✿
4.	Who decides what time you need to come home when you go out with friends or go to a friend's house?	✿	✿	✿
5.	Who decides how often you see your friends?	✿	✿	✿
6.	Who decides how you will get to places in the community (e.g., movies, stores) with your friends?	✿	✿	✿
7.	Who decides where you spend time with your friends (e.g., bedroom, family room) when they come over to your house?	✿	✿	✿
8.	Who chooses whether or not you can go out with your friends (e.g., to the movies)?	✿	✿	✿
9.	Who decides where you will "hang out" with your friends?	✿	✿	✿
10.	Who decides whether you can stay overnight at a friend's house?	✿	✿	✿

1. I decide

2. We decide together

3. Someone else decides

WHEN CARING FOR YOUR HEALTH		1	2	3
1.	Who decides if you need medicine (such as aspirin, Tylenol, cold medicine)?	✿	✿	✿
2.	Who decides if you need to see your doctor?	✿	✿	✿
3.	Who decides if you are too sick to go to school?	✿	✿	✿
4.	Who decides if you'll take medicine that your doctor has prescribed?	✿	✿	✿
5.	Who selected the doctor you go to?	✿	✿	✿

).	Who tells your doctor why you need to see him/her?	✿	✿	✿
'.	Who decides when you need to go to the dentist?	✿	✿	✿
;.	Who asks questions of the doctor when you go for a visit?	✿	✿	✿

1. I decide

2. We decide together

3. Someone else decides

		1	2	3
.T SCHOOL				
1.	Who decides how you get to school (for example, drive yourself, take a bus, ride with a friend)?	✿	✿	✿
2.	Who selects the tasks/activities you work on in school?	✿	✿	✿
3.	Who decides which activities you will be involved in after school (clubs, Scouts, sports, etc.)?	✿	✿	✿
4.	Who decides when you need help in class?	✿	✿	✿
5.	Who chooses *who* will help you when you need help in class?	✿	✿	✿
6.	Who chooses how you spend your free time in the classroom?	✿	✿	✿
7.	Who decides when you go to the restroom?	✿	✿	✿
8.	Who decides *who* you eat lunch with?	✿	✿	✿
9.	Who chooses what you get to eat for lunch at school?	✿	✿	✿
10.	Who decides with whom you can sit and talk during free time in the classroom?	✿	✿	✿
11.	Who chose which school you attend?	✿	✿	✿
12.	Who chooses *who* you will work with on group assignments?	✿	✿	✿
13.	Who decides where you will sit in the classroom?	✿	✿	✿
14.	Who selects the classes you will take?	✿	✿	✿
15.	Who chooses how your locker or other personal space at school will be decorated?	✿	✿	✿
16.	Who chooses how you spend your personal money at school (e.g., snacks, supplies, etc.)?	✿	✿	✿

EASE ANSWER THE FOLLOWING FOUR QUESTIONS WITH A YES/NO SWER.	YES	NO
My parent(s)/guardian(s) or teacher(s) *have invited me* to attend meetings where we talk about how well I am doing in school.	✿	✿

I have gone to meetings this year with my parent(s)/guardian(s) and teacher(s) to talk about how well I am doing in school.	✿	✿
My parent(s)/guardian(s) and teacher(s) ask me what I think at school meetings.	✿	✿
I help my parent(s)/guardian(s) and teacher(s) decide on the things I will do at school.	✿	✿

1. I decide

2. We decide together

3. Someone else decides

/sical Education Class	1	2	3
Who decides if you participate in physical education class?	✿	✿	✿
Who decides the frequency you participate in physical activity (in PE)?	✿	✿	✿
Who decides what physical activity you participate in (in PE)?	✿	✿	✿
Who decides the role you play in the physical activity chosen in physical education class (ie. Goalie, forward etc.)?	✿	✿	✿
Who decides if modifications are necessary for you to actively participate in a physical activity (in PE)?	✿	✿	✿
Who decides upon the type of modification(s) to an activity when needed?	✿	✿	✿
Who decides if physical therapy (PT) is taken in lieu of physical education?	✿	✿	✿
Who decides the evaluation process used for you grade in physical education?	✿	✿	✿
Who decides how often you can take a rest during activity (in PE)?	✿	✿	✿
Who chooses your partner for partner activities (in PE)?	✿	✿	✿
Who decides what team you will be on for team activities (in PE)?	✿	✿	✿
Who decides what extra curricular physical activities you can participate in?	✿	✿	✿

›ring Charts

At Home			
	I Decide	We Decide Together	Someone Else Decides
‹f re- ›nses			
ılıiplier	x 2	x 1	x 0
lumn tal		0	
Domain Score			

With Your Friends			
	I Decide	We Decide Together	Someone Else Decides
# of re-sponses			
Multiplier	x 2	x 1	x 0
Column Total		0	
Domain Score			

When Caring For Your Health			
	I Decide	We Decide Together	Someone Else Decides
›f re- ›nses			
ılıiplier	x 2	x 1	x 0
›lumn tal		0	
Domain Score			

At School			
	I Decide	We Decide Together	Someone Else Decides
# of re-sponses			
Multiplier	x 2	x 1	x 0
Column Total		0	
Domain Score			

Physical Education			
	I Decide	We Decide Together	Someone Else Decides
›f re- ›nses			
ılıiplier	x 2	x 1	x 0
›lumn ›tal		0	
Domain Score			

Student Opportunities Summary	Number of Responses			**Domain Score**
	I Decide	We Decide Together	Someone Else Decides	
At home				
With your friends				
When caring for your health				
At school				
In physical education				
Totals by response type				
Total Opportunity Score				

Appendix C

Letter of Consent

Permission to use information for research purposes

Dear Parents,

This year we are conducting two very exciting research projects in conjunction with camp. The first study is on perceived competence. We will research how competent children feel about their physical skills/abilities and social abilities. This questionnaire will take about 10-15 minutes and will be administered before and after camp activities.

The second study is on self-determination. This study will help us understand how independent and autonomous children feel in different settings and in physical education. The questionnaire will be given once within the first two days and take about 15 minutes. The questionnaire consists of 72 questions covering five categories: at school, with friend, at home, health care and physical education.

There are no physical risks to either study, and the benefits to knowledge in the field far outweigh the time spent by campers. The camper's names will not be used, and all questionnaires will be kept confidential. Approximately 40 students will take part in the studies. To ensure confidentiality research results may be obtained through e-mail or sending a request to Dr. Lauren Lieberman at SUNY Brockport: e-mail [redacted].

Thank you for your support. This important information would be impossible to obtain without the continued support of campers and their parents.

Contact information: Barbara L. Robinson e-mail: [redacted]
Dr. L. Lieberman e-mail: [redacted]

Parent/Guardian

I understand that my child's participation in the above studies is strictly voluntary. I approve of my child's participation in the perceived competence study and the self-determination study.

X_____Date_____

X_____Date_____

References

Abery, Brian. "Analysis for validation". E-mail to the author: 14 June 2002

Abery, B. & Stancliffe, R. (1996) The ecology of self-determination. In Sands, D.J. & Wehmeyer, M.L. (Eds) Self-determination across the life span: Independence and choice for people with disabilities (pp 111-145). Baltimore: Paul H. Brookes Publishing Co.

Abery, B. & Zajac, R. (1996) Self-determination as a goal of early childhood and elementary education. In Sands, D.J. & Wehmeyer, M.L. (Eds) Self-determination across the life span: Independence and choice for people with disabilities (pp 169-196). Baltimore: Paul H. Brookes Publishing Co.

American Alliance for Health, Physical Education, Recreation and Dance (1999) Physical best activity guide elementary level. Champaign, IL: Human Kinetics.

Blinde, E.M. & McClung, L.R. (1997) Enhancing the physical and social self through recreational activity: Accounts of individuals with physical disabilities. Adapted Physical Activity Quarterly, 14, 327-344.

Deci, E.L., Eghrari, H., Patrick, B.C. & Leone, D.R. (1994). Facilitating Internalization: The self-determination theory perspective. Journal of Personality, 62, 119-141.

Deci, E.L., Valerand, R.J., Pelletier, L.G. & Ryan, R.M. (1991) Motivation and education: The self-determination perspective. Educational Psychologist, 26, 325-346.

Federal Regulations (1998) Code of federal regulations: Education (parts 300 to 399) National Archives and Records Administration

Ferrer-Caja, E. & Weiss, M.R. (2000). Predictors of intrinsic motivation among adolescent students in physical education. Research Quarterly for Exercise and Sport, 71, 267-279.

Fortier, M., Vallerand, R.J. & Guay, E. (1995). Academic motivation and school performance: Toward a structural model. Contemporary Educational Psychology, 20, 257-274.

Frederick, C.M. & Ryan, R.M. (1995). Self-determination in sport: Areview using cognitive evaluation theory. International Journal of Sport Psychology, 26, 5-23.

Gothelf, C., Crimmins, D., Mercer, C. & Finocchiaro, P. (Summer,1994). Teaching choice-making skills to students who are deaf-blind. Teaching Exceptional Children, 13-15.

Graham, G., Holt/Hale, S.A. & Parker, M. (1998) Children moving a reflective approach to teaching physical education (4th ed.) Mountain View, CA: Mayfield Publishing Company.

Gronmo, J. & Augestad, B. (2001). Blind youth, self-concept and physical activity. Tambartun Kompetansesenter. 1SSN 1 502-0290.

Houston-Wilson, C. & Lieberman, L.J. (1999, March) The individualized education program in physical education: A guide for regular physical educators. Journal of Physical Education Recreation and Dance, pp60-64.

Huurre, T.M., Komulainen, E.J., & Aro, H.M. (1999) Social support and self-esteem among adolescents with visual impairment. Journal of Visual Impairment and Blindness, 93 (1), 26-37.

Koestner, R., Bernieri, F. & Zuckerman, M. (1992). Self-determination and consistency between attitudes, traits and behaviors. Personality and Social Psychology Bulletin, 18, 52-59.

Korhonen, K. (2000). Physical activity of visually impaired high school students. Doctoral Disertation Unpublished. Arla Institute, Helsinki, Finland.

Kowal, J. & Fortier, M.S. (1999). Motivational determinants of flow: Contributions from self-determination theory. The Journal of Social Pschology, 139, 355-368.

Mullan, E. & Markland, D. (1997). Variations in self-determination across the stages of change for exercise in adults. Motivation and Emotion, 21, 349-362.

Pumpian, I. (1996) Forward. In Sands, D.J. & Wehmeyer, M.L. (Eds) Self-determination across the life span: Independence and choice for people with disabilities (pp xiii-xv). Baltimore: Paul H. Brookes Publishing Co.

Rigby, C.S., Deci, E.L., Patrick, B.C. & Ryan, R.M. (1992). Beyand the intrinsic/extrinsic dichotomy: Self-determination in motivation and learning. Motivation and Emotion, 16, 165-185.

Rosenblum, L.P. (1998) Best friendships of adolescents with visual impairments: A descriptive study. Journal of Visual Impairment and Blindness, 92, 593-608.

Schloss, P., Alper, S. & Jayne, D. (1993). Self-determination for persons with disabilities: Choice, risk, and dignity. Exceptional Children, 60,215-225.

Sherrill, C. (1998) Adapted physical activity, recreation and sport: Crossdisciplinary and lifespan (5th ed.) Boston, MA: WCB/McGraw-Hill.

United States Association for Blind Athletes.(1982) Table of visual impairment categories for blind athletes. In C. Sherrill (1998) Adapted physical activity, recreation and sport: Crossdisciplinary and life span (5th ed.) Boston, MA: WCB/McGraw-Hill.

Vallerand, R.J., Fortier, M.S. & Guay, F. (1997). Self-determination and persistence in a real-life setting: Toward motivational model of high school dropout. Journal of Personality and Social Psychology, 72, 1161-1176.

Vlachopoulos, S.P., Karageorghis, C.I. & Terry, P.C. (2000). Motivation profiles in sport: A self-determination theory perspective. Research Quarterly for Exercise and Sport, 71, 387-397.

Ward, M. (1996) Coming of age in the age of self-determination. In Sands, D.J. & Wemeyer, M.L. (Eds) Self-determination across the life span: Independence and choice for people with disabilities (pp 3-16) Baltimore: Paul H. Brookes Publishing Co.

Wehmeyer, M. (1996) Self-determination as an educational outcome. In Sands, D.J. & Wehmeyer, M.L. (Eds) Self-determination across the life span: Independence and choice for people with disabilities (pp 17-36) Baltimore: Paul H. Brookes Publishing Co.

Wehmeyer, M., Agran, M. & Hughes, C. (1998) Teaching self-determination to students with disabilities: Basics for successful transition. Baltimore, MA: Paul H. Brookes Publishing Company

Wehmeyer, M. & Schwartz, M. (Spring, 1998). The self-determination focus of transition goals for students with mental retardation. CDEI, 21:1,75-86.

Williams, G.C. & Deci, E.L. (1996) Internalization of biopsychosocial values by medical students: A test of self-determination theory. Journal of Personality and Social Psychology, 70, 767-779.

Williams, G.C., Freedman, Z.R., & Deci, E.L. (1998) Supporting autonomy to motivate patients with diabetes for glucose control. Diabetes Care, 21, 1644-1656.

Winnick, J. (1985) The performance of visually impaired youngsters in physical education activities: Implications for mainstreaming. Adapted Physical Activity Quarterly, 2(4), 292-299.